



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT OFFICE
3040 Biddle Road
Medford, Oregon 97504
email address: or110mb@or.blm.gov

IN REPLY REFER TO:

1792(116)
Conde Shell EA
A6645(WHY:jl)

DEC 10 2001

Dear Interested Public:

The *Environmental Assessment* (EA) for the Slashbuster 3 and Manual Treatments is being advertised in the Medford Mail Tribune for a 30 day public review period. The proposed action would reduce fuel hazard by thinning approximately 1,733 acres of Bureau of Land Management (BLM) administered lands. Vegetation proposed to be thinned include non-commercial conifer trees, oak woodlands, and shrublands. Vegetation would be thinned using mechanical and manual techniques of cutting and chipping, such as the slashbuster, and/or using hand crews with chain saws. Slash created by the project would be chipped on site (if using slashbuster), or hand piled and burned if cut by hand crews. Some material may be removed from the site in the form of poles, firewood or other special forest products. Material to be cut would be under eight (8) inches in diameter at breast height. Future (approximately 3 to 5 years) maintenance treatments are planned utilizing a light underburn in portions of the units.

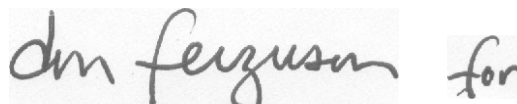
The primary purpose of a public review is to provide the public with an opportunity to comment on the BLM's determination that there are no significant impacts associated with the proposed action beyond those impacts addressed in the Medford District Record of Decision and Resource Management Plan.

This EA is published on the Medford District web site, www.or.blm.gov/Medford/, under "Planning Documents."

We welcome your comments on the content of the EA. We are particularly interested in comments that address one or more of the following: (1) new information that would affect the analysis, (2) possible improvements in the analysis; and (3) suggestions for improving or clarifying the proposed management direction. Specific comments are the most useful. Comments, including names and addresses, will be available for public review. Individual respondents may request confidentiality. If you wish to withhold your name and/or address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

All comments should be made in writing and mailed to Bill Yocum, Ashland Resource Area, Biddle Road, Medford, OR 97504. Any questions should be directed to Bill at (541)618-2384.

Sincerely,



Richard J. Drehobl
Field Manager
Ashland Resource Area

Enclosure (as stated)

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
ASHLAND RESOURCE AREA

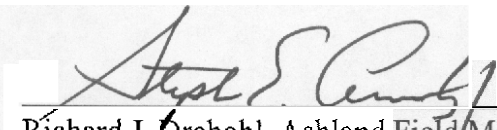
ENVIRONMENTAL ASSESSMENT

FOR

Slashbuster 3 and Manual Treatments

EA No. OR-110-01-027

This environmental assessment (EA) for the proposed Slashbuster 3 and Manual Treatments EA was prepared utilizing a systematic interdisciplinary approach integrating the natural and social sciences and the environmental design arts with planning and decision making.

for 
Richard J. Drehobl, Ashland Field Manager

12-7-01
Date

X:\USERS\J11angho\Temp\ea slashbuster.wpd

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ASHLAND RESOURCE AREA

EA COVER SHEET

Project Name/Number: Slashbuster 3 and Manual Treatments EA/OR-110-01-027

Location: Ashland Resource Area

Specialist	Title	Resource Value
Kenny McDaniel	Forester	Team Lead
Luis Ramirez	Forestry Technician	Implementation
Dave Squyres	Hydrologist	Soils, Water, Riparian
Matt Broyles	Wildlife Biologist	Wildlife, T&E Animals
Greg Chandler	Fuels Mgt. Specialist	Fire Hazard Reduction
Mark Steiger	Botanist	S&M/T&E Plants
Fred Tomlins	Recreation Specialist	Cultural Resources
Jennifer Smith	Fisheries Biologist	Fisheries
Angie Morris		Writing/Editing
Bill Yocum	Environmental Planner/Coord.	Format/Adequacy

ASHLAND RESOURCE AREA - Slashbuster 3 and Manual Treatments EA
TABLE OF CONTENTS

CHAPTER 1	1
A. INTRODUCTION	1
B. PURPOSE AND NEED	1
C. CONFORMANCE WITH EXISTING LAND USE PLANS	1
D. RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS	2
E. DECISIONS TO BE MADE ON THIS ANALYSIS	2
F. ISSUES OF CONCERN	2
CHAPTER 2	3
A. INTRODUCTION	3
B. PROPOSED ACTION ALTERNATIVE	3
C. NO ACTION ALTERNATIVE	6
CHAPTER 3	7
A. INTRODUCTION	7
B. BOTANY	7
C. FUELS	8
D. HYDROLOGY	9
E. WILDLIFE	10
F. FISHERIES	14
G. CULTURAL/RECREATION	15
CHAPTER 4	16
A. INTRODUCTION	16
B. FUELS	16
C. WILDLIFE	17
D. BOTANY	19
E. FISHERIES/HYDROLOGY/RIPARIAN	21
F. CULTURAL/RECREATION	25
G. CRITICAL ELEMENTS	25
CHAPTER 5	27
A. LEGAL CONSULTATION	27
B. PUBLIC PARTICIPATION	27
C. AVAILABILITY	27

CHAPTER 1

A. INTRODUCTION

The Bureau of Land Management (BLM) proposes to reduce fuel hazard by thinning approximately 1,733 acres of BLM administered lands. Vegetation proposed to be thinned include non-commercial conifer trees, oak woodlands, and shrublands.

This document complies with the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA; 40 CFR Parts 1500-1508) and the Department of the Interior's manual guidance on the National Environmental Policy Act of 1969 (516 DM 1-7).

B. PURPOSE AND NEED

The purpose of the proposed project would be to reduce the hazard of a catastrophic wildfire by reducing the fuel loading. The interagency *Applegate Adaptive Management Area (AMA) Ecosystem Health Assessment* classified the AMA as an area with high fire risk and fire hazard. The absence of frequent landscape wildfire has led to high tree and brush density levels and dense patches of non-commercial size conifers.

The Medford District Resource Management Plan (RMP) established guidelines for the management of BLM lands, and responds to the need for forest habitat. According to the RMP, the need for forest habitat is the need for a healthy forest ecosystem with habitat that will support populations of native species.

Several fuel management strategies are used when reducing fire hazard on a broad scale. One strategy is to reduce ladder and surface fuels over the landscape. This Environmental Assessment recommends reducing fire hazard on a broad scale in the proposed project area, utilizing manual manipulation of live and dead vegetation with some prescribed fire as an initial treatment with future maintenance treatments being light underburns. The proposed project area would treat several parcels of land in the Texter Gulch, Waters Gulch, and one 40 acre parcel in the vicinity of the USFS Star Ranger Station.

Two alternatives were developed for this project. A description of these alternatives can be found in Chapter II of this document.

C. CONFORMANCE WITH EXISTING LAND USE PLANS

The proposed activities are in conformance with and tiered to the *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (Amended Northwest Forest Plan) (USDI, USDA 2001) and the *Medford District Record of Decision and Resource Management Plan* (RMP) (USDI 1995b). These Resource Management Plans incorporate the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within*

the Range of the Northern Spotted Owl and the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (NWFP) (USDA and USDI 1994). These documents are available at the Medford BLM office and the Medford BLM web site at <<http://www.or.blm.gov/Medford/>>.

D. RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS

The proposed action and alternatives are in conformance with the direction given for the management of public lands in the Medford District by the Oregon and California Lands Act of 1937 (O&C Act) and the Federal Land Policy and Management Act of 1976 (FLPMA).

E. DECISIONS TO BE MADE ON THIS ANALYSIS

This environmental assessment (EA) is being prepared to determine if the proposed action and any of the alternatives would have a significant effect on the human environment thus requiring the preparation of an environmental impact statement (EIS) as prescribed in the National Environmental Policy Act of 1969 (NEPA). It is also being used to inform interested parties of the anticipated impacts and provide them with an opportunity to comment on the various alternatives.

The Ashland Resource Area Field Manager must decide:

- Whether or not the impacts of the proposed action are significant to the human environment beyond those impacts addressed in previous NEPA documents. (If the impacts are determined to be insignificant, then a Finding of No Significant Impact (FONSI) can be issued and a decision can be implemented. If any impacts are determined to be significant to the human environment, then an Environmental Impact Statement must be prepared before the Manager makes a decision.)
- Whether to implement the proposed action alternative or defer to the no action alternative

F. ISSUES OF CONCERN

The following issues were identified during the scoping process. All issues were reviewed by the Interdisciplinary Team. Issues that directly relate to the proposed action were analyzed in detail.

1. Due to long term absence of fire, vegetation is now at a condition where fire hazard is very high. Recent fires in the Applegate have shown that significant damage and long term destruction of natural resources are likely in the event of a large wildfire.
2. Disturbance to Survey and Manage species (identified in Amended NWFP) in treatment units.
3. Disturbance to nesting birds and other wildlife during the spring reproductive period.
4. Disturbance to nearby nesting northern spotted owl sites.
5. The spread of noxious weeds and other invasive, non-native species.

CHAPTER 2 Alternatives

A. INTRODUCTION

This chapter describes the proposed action alternative and the no action alternative. This chapter also outlines specific project mitigation features described as Project Design Features (PDFs) which are designed as part of the alternative. PDFs reduce or eliminating anticipated adverse environmental impacts

The Ashland Resource Area has developed a proposed action designed with the project objective outlined in the Star Beaver Palmer Watershed Analysis and in accordance with the best management practices as outlined in the Medford District RMP (pages 149-177).

B. PROPOSED ACTION ALTERNATIVE

Reduce fire hazard by thinning vegetation on 1,733 acres of federal land. Vegetation would be thinned using mechanical and manual techniques of cutting and chipping, such as the slashbuster, and/or using hand crews with chain saws. Slash created by the project would be chipped on site (if using slashbuster), or hand piled and burned if cut by hand crews. Some material may be removed from the site in the form of poles, firewood or other special forest products. Material to be cut would be under eight (8) inches in diameter at breast height. Future (approximately 3 to 5 years) maintenance treatments are planned utilizing a light underburn in portions of the units.

Unit Name	Acres	Proposed Treatment	Location
Upper Applegate #1	40	Slashbuster/Handpile	T39S,R3W, Section 33
Texter Gulch #1, 2, 3, 4, 5, 7, 8	653	Slashbuster	T40S,R2W, Section 7
Texter Gulch #11, 12, 13, 14, 15	488	Slashbuster	T40S,R2W, Section 5
Texter Gulch #17, 18, 19,	323	Slashbuster	T40S,R2W, Section 12
Texter Gulch #9, 10, 16	202	Handpile	T40S,R2W, Section 5
Texter Gulch #20	27	Handpile	T40S,R2W, Section 12
Total Acres	1,733		

Location map is located in Appendix A

Project Design Features

In order to provide for escape, hiding, thermal, and nesting cover for a variety of species, 15 to 20% of the proposed area would be left in an untreated condition. These deferral reserves would be at least 3.0 acres in size and cover a variety of vegetative conditions. In addition, all overstory

hardwood trees in slashbuster units would be reserved.

To minimize loss in soil productivity and surface erosion, the average unit slope for mechanical operations would be less than 25%. The maximum slope for the slashbuster would be 35%, but only on short pitches less than 300 feet.

Old skid roads would not be opened or driven on without the approval of the authorized officer. Cut material or slashbuster material would be placed along old skid roads or jeep roads that are used. Old skidroads would not be treated near the intersections with system roads in order to provide a visual screen and discourage vehicular access.

To minimize the spread of noxious weeds

- Vehicle movement into the units would be limited to the dry season.
- Mechanical equipment would be power sprayed and washed before entering the units.
- A no treatment buffer of 20 feet along all open roads would be required.
- Seeding of native grasses and/or sterile wheatgrass on disturbed soil (e.g., main entry points into units, burn pile scars, etc.) would occur.
- Canada thistle, star thistle, and bull thistle infest roadsides in a few locations in the project area. To reduce the existing population, the Slashbuster 3 incorporates the following control treatments: insect release as bio-control, weeding by hand, and using fire to burn plants before seed release. As a last resort, additional treatment with herbicides (as outlined in the Medford District's Integrated Weed Management Plan and EA #OR-110-98-14) would occur. The areas lacking native seed bank would be seeded with native grass.

Special Status Species

- Buffer known site of *Cyprideum monatanum*.
- Buffer known sites of Survey and Manage fungi, lichens, and bryophytes.
- Buffer known site of *Monadenia chaseana*, a terrestrial land-snail.

Existing Range Improvements

- Protect the existing fence in Texter Gulch units 7 and 12. Where feasible, brush along the existing fence.
- Protect existing water developments in Texter Gulch units 7 and 12.

Cultural Resources

- All known cultural sites have been identified and would be avoided.

Prescribed Burning

- The objective of the pile burning would be a cool burn with 90% consumption that leaves an unburned ring of woody material on the ground.
- Whenever possible, pile burning and underburning would be planned and scheduled to result in low intensity burns to reduce the loss of organic matter, nutrients, subsequent

site productivity, and to lessen surface erosion. All fuel management activities occurring within the project area would meet Aquatic Conservation Strategy (ACS) and Riparian Reserve objectives.

- Do not burn any hand piles that are located on draw bottoms.
- Do not burn any hand piles that are on the first 50 feet of old skid trails adjoining the BLM road system.
- Complete mop-up as soon as practical to reduce potential level of smoke emissions.
- Cover hand piles to permit burning during the rainy season and to ensure lower fuel moisture to facilitate quick and complete combustion while reducing potential level of smoke emissions.
- Burn during the rainy season when there is a stronger possibility of atmospheric mixing and/or scrubbing to allow for better smoke dispersion.
- Do not burn during the height of the spring reproductive period, April 1st through June 30th, to protect Special Status Species and other nesting bird and wildlife species.
- Activities within riparian areas occurring within the project area would meet ACS and Riparian Reserve objectives.
- Piles would be burned in a manner that keeps residual tree mortality at a minimal level.

Fish Streams (300 feet of each side of stream)

- No treatment would occur within 50 feet (minimum) each side of stream. The no treatment area is 50 feet or the top of the slope break, whichever is greater.
- Crossing channels with vehicles or equipment, including ATVs, is limited to existing system roads.
- Areas that cannot be accessed without crossing the no-treatment area would be treated manually.
- Treat only conifers.
- Do not damage down large woody debris (LWD) over 16 inches diameter at breast height (DBH).

Other Perennial and Intermittent Streams (150 feet of each side)

- Limited manual (hand crew) treatment would occur within a minimum of 25 feet each side of stream or the top of the slope break, whichever is greater.
- Within 25 feet on each side of stream, treatment would alternate along the stream at 300 feet intervals. From the bottom of the reach, the first 300 feet would get the standard 25 feet each side no treatment.
- Crossing channels with vehicles or equipment would be limited to existing system roads.
- Areas that cannot be accessed without crossing the limited manual treatment area would be treated manually.
- If piling within the 25 feet limited manual treatment area, piles would not be burned. Piles would not be placed in channel bottoms.
- Individual trees that fall into channel bottoms would be left; large accumulations of cut trees would be moved onto the banks.
- Within each 300 feet treatment area, one 6-8 inches DBH tree, if available on site, would

- be dropped into the channel at an upstream angle.
- Large woody debris (LWD) over 16 inches DBH. would not be damaged.

Dry Draws and Swales

- Piles would not be located in draw bottoms.
- Crossings through dry draws would be limited and approved by authorized officer; mechanical equipment would not drive up the draw bottoms.
- Crossings would not require any cutting, leveling, or disturbance of banks.

C. NO ACTION ALTERNATIVE

Do not thin the planned units. The high fire hazard would remain unchanged and the probability of a catastrophic wildfire event would increase yearly. Maintenance broadcast burning would not occur because the high amount of ground fuel could create unacceptable resource damage if ignited.

CHAPTER 3 AFFECTED ENVIRONMENT

A. INTRODUCTION

This chapter describes the present conditions within the proposed project area that would be affected by the alternatives. The information in this chapter would serve as a general baseline for determining the effects of the alternatives. No attempt has been made to describe every detail of every resource within the proposed project area. Only enough detail has been given to determine if any of the alternatives would cause significant impacts to the environment (additional detail is located in the EA file which is available for review by calling 541-618-2384). The information is organized around the major issues.

The proposed project consists of four parcels of land, three in the Texter and Waters Gulch area and one (1) 40 acre parcel in the vicinity of the USFS Star Ranger Station.

The 40 acre parcel contains driveways and OHV trails. A large portion of this piece has been hydraulically mined in the past as evident from the tailings piles of large cobble. Vegetation on the 40 acres consists mostly of a low elevation mix of ponderosa pine, Douglas-fir, and manzanita. There are some pockets of oaks and some riparian species in the riparian zone along the southern draw.

The Texter and Waters Gulch area is vegetated with mixed seral stage conifer stands including areas with black oaks, white oaks, and madrone. A variety of vegetation including manzanita and ceanothus dominate brush fields between forested stands. The riparian zones hold larger conifer trees and some large hardwoods. For the most part, the riparian associated vegetation (willows etc.) are confined to the channels and their immediate areas.

B. BOTANY

Bureau Special Status Species

All of the proposed activity areas were surveyed for Bureau Special Status and Survey and Manage vascular plants, as well as the federally listed *Fritillaria gentneri*. Surveys were conducted from 1997 through 1999 by qualified botany contractors. Surveyors encountered one population of *Cypripedium montanum*, a Bureau Special Status Species, within the confines of the project area. The one known site would be protected with a 150 foot radius buffer in accordance with established district protocols.

Northwest Forest Plan Species

In the fall of 1997, the spring and fall of 1998, and again in the fall of 2000, all proposed activity areas were surveyed in accordance with established protocols for the presence of Survey and Manage fungi, lichens, and bryophytes. Surveys documented 27 occurrences of four species: *Bryoria tortuosa* (9 occurrences), *Buxbaumia viridis* (1 occurrence), *Dendroica caerulea* (15 occurrences), and *Tremiscus helvelloides* (2 occurrences). All of these sites would be protected with 100 foot radius buffers in accordance with District protocol established

by Medford BLM District Office Instruction Memorandum OR110-2000-8, dated June 23, 2000.

C. FUELS

Fire is recognized as a key natural disturbance process throughout Southwest Oregon (Atzet and Wheeler, 1982). Human caused and lightning fires have been a source of disturbance to the landscape for thousands of years. Native Americans influenced vegetation patterns for over a thousand years by igniting fires to enhance values that were important to their culture (Pullen, 1995). Early settlers to this area used fire to improve grazing and farming and to expose rock and soil for mining. Fire has played an important role in influencing successional processes. Large fires were a common occurrence in the area based on fire scars and vegetative patterns and were of varying severities. Climate and topography combine to create the fire regime found in the proposed project area. Fire regime refers to the frequency, severity and extent of fires occurring in an area (Agee 1991) and are based on the effects of fire on the dominant vegetation. Vegetation types are helpful in delineating different fire regimes. Using vegetation types as a basis for fire regime delineation, one broad fire regime was identified within the project area

Low-Severity Regime

A low-severity regime is characterized by nearly continual summer drought; fires are frequent (1-25 years), burn with low intensity, and are widespread. This regime is characterized by vegetation types such as grasslands, shrublands, hardwoods, and mixed hardwood and pine. The vegetation types found in the proposed project area, a low-severity regime, are similar to the Interior Valley Vegetative Zone.(Franklin and Dyrness 1988). These plant communities recover rapidly from fire and are dependent on fire for their continued persistence. The dominant trees within this regime are adapted to resist fire with thick bark that develops at a young age.

Based on calculations using fire return intervals, five fire cycles have been eliminated in the southwest Oregon mixed conifer forests that occur at low elevations (Thomas and Agee 1986). Species, such as ponderosa pine and oaks, have decreased. Many stands, which were once open, are now heavily stocked with conifers and small oaks which has changed the horizontal and vertical stand structure. Surface fuels and ladder effect of fuels have increased, which has increased the threat of crown fires which were once historically rare

Many forests developed high tree densities and produced slow growing trees rather than faster growing trees after abrupt fire suppression became policy in about 1900. Trees facing such intense competition often become weakened and are highly susceptible to insect epidemics and tree pathogens. Younger trees (mostly conifers) contribute to stress and mortality of mature conifers and hardwoods. High density forests burn with increased intensity because of the unnaturally high fuel levels. High intensity fires can damage soils and often completely destroy riparian vegetation. Historically, low intensity fires often spared riparian areas, which reduced soil erosion and provided wildlife habitats following the event.

The absence of fire has also had negative effects on grasslands, shrublands, and woodlands. Research in the last few decades has shown that many southern Oregon shrub and herbaceous

plant species are either directly or indirectly fire dependent.

Several shrub species are directly dependent on the heat from fires for germination. Without fire, these stands of shrubs cannot be rejuvenated. Grass and forbs species may show increased seed production and/or germination associated with fire.

Fire dependent herbaceous species are crowded out by larger stature and longer lived woody species. This is particularly so for grasses and forbs within stands of wedgeleaf ceanothus and whiteleaf manzanita with a high canopy closure. High shrub canopy closure prevents herbaceous species from completing their lifecycle and producing viable seed. Many grass species may drop out of high canopy shrub lands in the absence of fire because of their short- lived seed bank.

Fire history recorded over the past 20 years in Southwest Oregon indicates a trend of more large fires burning at higher intensities in vegetation types associated with low-severity fire regimes and moderate-severity fire regimes. This trend is also seen throughout the western United States. An increase of fuel loading due to the absence of fire, recent drought conditions, and past management practices are contributing factors.

D. HYDROLOGY/SOILS

Vegetation, climatic, geologic and other processes related to hydrology and soils are discussed in depth in both the Little Applegate and Beaver/Palmer Watershed Analyses.

In the southwestern half of the project area, Texter Gulch and several other unnamed perennial streams are tributaries to Beaver Creek, a major tributary to the Applegate River in the Applegate River-Star/Beaver/Palmer Watershed. Soils in most of this portion of the project area consist of decomposed granitics, with highly erodible soil surface horizons sensitive to surface disturbance.

In the northeastern half of the project, Waters Gulch is a perennial tributary to Yale Creek, a major tributary in the Little Applegate River Watershed. Soils in portions of this area also consist of decomposed granitics with highly erodible soil surface horizons sensitive to surface disturbance.

Stream densities are high, especially in areas of granitic soils.

Riparian

Riparian area vegetation species diversity within the project area is good, with a broad range of riparian species present along perennial and seasonal streams. Ephemeral streams within the project area are generally comprised of the same plant communities as the surrounding uplands.

The lack of a diverse age/size structure for the vegetation, especially in the larger sizes, is due to extensive past timber harvest activity, past fire suppression, and resultant wildfire. Sufficient quantities of large woody species needed for proper functioning are lacking in many areas. Stream channels lack the large wood component that would be expected given the size of stumps

present in many parts of the project area. Stream banks are generally steep, with many channels deeply incised in an otherwise gently sloping landscape. Such stream banks in decomposed granitic soils are very sensitive to any surface disturbance.

Water quality

Waters Gulch and tributaries have not been identified as having any significant water quality issues.

Beaver Creek is a Water Quality Limited stream on the 303(d) list for the following parameters (data from ODEQ website <http://waterquality.deq.state.or.us/WQLData/SearchChoice98.htm>):

- *Biological Criteria:* a 1991 benthic macroinvertebrate study indicated that Beaver Creek is moderately to severely impaired due to habitat limitations, with many positive indicator groups not present.
- *Flow Modification:* Beaver Creek can be de-watered by irrigation withdrawals which allows for little or no movement of fish, can result in stress, predation and increased temperature; an Instream Water Right application has been filed.
- *Water Temperature:* DEQ has listed the stream based on historic data from an unspecified location. BLM has collected stream temperature data at both the upstream and downstream BLM boundaries on Beaver Creek, and the data indicates that this portion of Beaver Creek meets the state water quality standard of 64 degrees F. Proposed and supporting temperature data for this stream has been filed with DEQ.
- *Habitat Modification:* Coho are listed under the ESA, summer steelhead. Fall chinook spawning has been reduced; large woody debris (LWD) is well below desired conditions.
- *Sedimentation:* a 1991 benthic macroinvertebrate study indicated that Beaver Creek is moderately to severely impaired due to habitat limitations; fine sediment is a problem.

Tributaries within the project area represent the largest source of sediment production in Beaver Creek. A limited monitoring project in 1984 sampled sediment loads at 18 locations in the Beaver Creek system. The three highest levels of suspended sediment measured occurred within the proposed project area in Haskins Gulch (T40S R3W Section 12; 1154 milligrams/liter), Texter Gulch (T40S R3W Section 12; 1092 milligrams/liter) and an unnamed tributary (T40S R3W Section 12; 375 milligrams/liter). Above this area, in contrast, Beaver Creek measured 163 milligrams/liter. (USFS, 1984). Unarmored ditchlines, old skid trails, and other road drainage related problems are a major source of instream sediment within the project area.

Downstream of the project area, some homes along Beaver Creek utilize stream water for domestic use, and have in the past reported problems with siltation in their water intake locations and in their pumps (USFS, 1984).

E. WILDLIFE

Special Status Species (SSS) include those species that are listed as threatened or endangered, are proposed for listing as threatened or endangered, or are candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service under the auspices of the Endangered Species Act (ESA) of 1973, as amended. Also included are those species addressed in the document

entitled *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and Other Mitigation Measures Standards and Guidelines*. This document would hereinafter be referred to as the “S&M ROD.” Also included are those species listed by the BLM as Sensitive or Assessment species.

SSS Known to Occur or Suspected to Occur in the Proposed Project Area

Northern Spotted Owl (*Strix occidentalis caurina*)

The northern spotted owl is listed as a Threatened species under the auspices of the ESA. This species may use the habitat in the proposed project, particularly some of the older more developed stands in the Texter gulch area. None of the isolated 40 acre piece is considered suitable habitat for this species.

Of 1733 acres in the proposed project in Texter Gulch area, 253 acres are considered to be suitable for spotted owls. Another 1381 acres in this part of the proposed project is classified as having potential to develop into suitable habitat given time and appropriate management. In the Texter Gulch area of the proposed project, 518 acres are currently considered suitable for spotted owl dispersal. The majority of these acres are also part of the 1381 acres-with-potential figure above.

There are ten (10) known spotted owl sites within 3.0 miles of the proposed project, however, none of these sites is closer than one-half (½) mile to the proposed project.

Golden Eagle (*Aquila chrysaetos*)

While the golden eagle is not listed under the ESA and is not a Bureau Sensitive species, it is protected under the auspices of the Bald and Golden Eagle Protection Act of 1940. There are no known nests in the proposed project area. This species uses late-successional forest habitat for nesting in this part of its range. Golden eagles build large nests in dominant overstory trees. Nest trees often have significant defect, such as a blown out top or unusually large branches, and are often among of the largest diameter trees in mature and old growth stands. Golden eagle nests in SW Oregon are usually on or near the tops of major ridges. The proposed project area is in a valley, and is near a well traveled road. These factors make it highly unlikely that golden eagles are nesting in the proposed project area. No surveys have been conducted for this species in the project area, none are required.

Great Gray Owl (*Strix nebulosa*)

The great gray owl is a Bureau tracking and Survey and Manage category “C” species. Great gray owls in this part of their range nest in mature/late seral mixed conifer and white fir forests, and forage primarily in the meadows/grassland or early seral stand conditions of conifer forests. The proposed project area is judged to be unsuitable nesting habitat for this species due to the general lack of large, (5+ acres) grassy areas. Because the proposed project area is considered to be non suitable, and because the proposed activities would be unlikely to negatively affect the habitat characteristics of the stands that are thought to be important to this species if the stands were suitable habitat, no surveys for the species were required or performed.

Northern Goshawk (*Accipiter gentilis*)

This is a Bureau sensitive species. In this part of the species' range it appears to be nesting habitat specialist and a foraging habitat generalist. It nests in large trees in mature and old growth stands, but forages in a variety of stand types and ages. The mature stands in the Texter Gulch portion of the proposed project area are at the low end of nesting habitat quality. Goshawks could nest in them but it would be unlikely. All of the proposed project area is suitable for goshawk foraging. No surveys have been performed for this species in the project area, none are required.

Flammulated Owl (*Otus flammeolus*)

The flammulated owl is occasionally observed throughout SW Oregon. Although this species is not listed as a Survey and Manage species, the S&M ROD calls for the retention of additional large snags in harvest units in areas where this species occurs. Primary habitat is conifer forest intermixed with oak-woodland and grassland in the Mixed Conifer Zone. This species nests in cavities created by other birds species (pileated woodpecker, flicker) in large pine trees and snags. No surveys have been performed, none are required.

Red Tree Vole (*Arborimus longicaudus*)

The red tree vole is a small arboreal mammal that is listed as a Survey and Manage species in the S&M ROD. Approximately XX acres of the proposed project area are considered suitable habitat for this species. Pre-disturbance surveys for this species are required for actions that have the potential to negatively affect the suitability of habitat for the species. None of the action alternatives being analyzed involve actions that would negatively affect red tree vole habitat. Consequently no surveys have been performed for this species in the project area.

Siskiyou Mountains Salamander (*Plethodon stormii*)

This species is listed as a Survey and Manage species in the S&M ROD, and is also a Bureau assessment species. The Siskiyou Mountains Salamander is a terrestrial, lungless salamander with a very limited geographic range. This species lives in surface rock and talus habitat in parts of southern Oregon and northern California. None of the proposed project area is classified as suitable habitat for this species. The general lack of surface rock habitat, particularly in the Texter Gulch portion of the proposed project area, makes the presence of this species highly unlikely. Consequently, no surveys for this species have been conducted in the proposed project area.

Black Salamander (*Aneides flavipunctatus*)

This is a Bureau assessment species. The general lack of surface rock habitat, particularly in the Texter Gulch portion of the proposed project area, makes the presence of this species highly unlikely. No surveys have been performed for this species in the project area, none are required.

Fisher (*Martes pennanti*)

The fisher is a Bureau assessment species. This species may occur in the proposed project area. Preferred habitat is dense conifer forests in the mixed conifer and white fir zones. There are no

specific protection measures prescribed for this species. No surveys have been performed, none are required.

American Marten (*Martes americana*)

The marten is a Bureau assessment species. This species may occur in the proposed project area. Preferred habitat is mature/old-growth conifer forests that have an abundance of large down woody material and standing snags in the Mixed Conifer and White Fir zones. No surveys have been performed, none are required.

Townsend's Big-eared Bat (*Plecotus townsendii*)

The Townsend's big-eared bat is a Bureau sensitive species. Although this species is not listed as a Survey and Manage species, the S&M ROD calls for the protection of specific types of roost sites which are known or assumed to be occupied by this species. Preferred roosting habitat is caves, crevices, and abandoned mines. There are no known records of this species being present in the proposed project area. No surveys for this species have been conducted in the proposed project area; none are required.

Pacific Pallid Bat (*Antrozous pallidus*), Fringed Myotis (*Myotis thysanodes*)

Long-eared myotis (*Myotis evotis*), Long-legged myotis (*Myotis volans*)

Yuma myotis (*Myotis yumanensis*), Silver-haired bat (*Lasionycteris noctivagans*)

Although these species are not listed as Bureau sensitive or assessment species, nor S&M species, the S&M ROD calls for the protection of specific types of roost sites which are known or assumed to be occupied by these species. These sites include mines, caves, abandoned wooden structures, and some types of bridges. These species appear to be habitat generalists with regard to foraging, but habitat specialists with regard to roost sites. Caves, crevices, abandoned buildings, or other similar structures are required for nursery colonies. There are no known records of these species being present in the proposed project area, but they are certainly present. None of the specified types of roost sites requiring protection are known in the proposed project area. No surveys for these species have been conducted in the proposed project area, none are required.

Terrestrial mollusks (slugs and snails)

Pre-disturbance surveys for Survey and Manage terrestrial mollusks in the Texter Gulch portion of the proposed project area were completed in the Spring of 2001, and resulted in two (2) known locations of the *Monadenia chaseana* land snail. Surveys for special status terrestrial mollusks on the isolated forty acre portion of the proposed project area are scheduled for completion in the spring of 2002.

Insects:

Franklin's Bumblebee (*Bombus franklini*)

This is a Bureau sensitive species about which very little is known. It seems to be dependant on open grassy meadow habitat for nesting and foraging. This habitat type is generally absent from the proposed project area. No surveys are required, none have been performed.

SSS That are NOT Likely to Occur in the Proposed Project Area

The following is a list of special status species that are not likely to occur in the proposed project area and have not been addressed above. The proposed project is within the known or suspected range of these species, but because of habitat conditions and or other factors they are not likely to be using the project area.

Western Pond Turtle (*Clemmys marmorata*)
Western Meadowlark (*Sturnella neglecta*)
White-headed Woodpecker (*Dendrocopos albolarvatus*).
Black-backed Woodpecker (*Picoides arcticus*)
Northern Three-toed Woodpecker (*Picoides tridactylus*)
Bald Eagle (*Haliaeetus leucocephalus*)
Peregrine Falcon (*Falco peregrinus*)
Lewis' Woodpecker (*Asyndesmus lewis*)
Tricolored Blackbird (*Agelaius tricolor*)
Brazilian Free-tailed Bat (*Tadarida brasiliensis*)
Ferruginous Hawk (*Buteo regalis*)
Yellow- Billed Cuckoo (*Coccyzus americanus*)
Streaked Horned Lark (*Eremophila alpestris strigata*)
Red-necked Grebe (*Podiceps grisegena*)
Purple Martin (*Progne subis*)
Mardon Skipper (butterfly) (*Polites mardon*)

F. FISHERIES

This project area includes a 40 acre parcel near the mainstem Applegate River, two sections in the Beaver Creek drainage, and one section in the Yale Creek drainage. All three drainages support populations of ESA listed fish species including Southern Oregon/Northern California (SONC) coho salmon (*Oncorhynchus kisutch*), listed as threatened under the Endangered Species Act (ESA) and. Klamath Mountain Province (KMP) steelhead, once a candidate species for listing under the ESA. However, in April 2001, the National Marine Fisheries Service (NMFS) ruled that the listing was not warranted. The status of coastal cutthroat trout (*O. clarki*) is under review by U.S. Fish and Wildlife Service.

China Gulch, a perennial tributary to the Applegate River, is located within the 40 acre parcel project area. China Gulch does not support fish populations. However, the Applegate River does support fish populations and is located approximately ½ mile downstream of the project area. Populations of coho (*Oncorhynchus kisutch*) and chinook salmon (*O. tshawytscha*), steelhead (*O. mykiss*), rainbow trout (*O. mykiss*), and cutthroat trout (*O. clarki*) are known to occur in the Applegate River. There are other native species that may be present in this analysis area including Pacific lamprey (*Lampetra tridentata*), sculpins (*Cottus* spp), and Klamath smallscale suckers (*Catostomus rimiculus*) but their distribution is not well known. Redside shiners (*Richardsonius balteatus*), speckled dace (*Rhinichthys osculus*), and Northern pikeminnow (*Ptychocheilus umpqua*) are common non-native species found throughout the Applegate River.

Beaver Creek, a perennial tributary to the Applegate River, supports populations of SONC coho salmon, cutthroat trout, steelhead, and rainbow trout. Cutthroat trout have been observed in Texter Gulch, a tributary to Beaver Creek.

The Yale Creek portion of the project is located along Waters Gulch, a perennial tributary to Yale Creek which is a tributary to the Little Applegate River. From its confluence with Yale Creek, the Little Applegate River flows for approximately seven miles before emptying into the Applegate River. Waters Gulch and its tributaries support populations of steelhead and cutthroat trout. Populations of SONC coho salmon, steelhead, and cutthroat trout are known to occur in Yale Creek. The Little Applegate River supports populations of fall chinook salmon (*O. tshawytscha*) in addition to the above listed fish species.

Other native species known to occur in the Applegate basin could potentially occupy the Beaver Creek and Yale Creek drainages. Although information on their distribution is incomplete, the species could include sculpin (*Cottus* spp.), Klamath smallscale suckers (*Catostomus rimiculus*), and Pacific lamprey (*Lampetra tridentata*).

Information regarding native and non-native species common throughout the upper Applegate drainage is available in the Applegate Star-Boaz Watershed Analysis (1998).

G. CULTURAL/RECREATION

Cultural

Portions of the project area were surveyed under contract in 1999 by Sore Foot Archaeology. The 40 acre parcel known as Upper Applegate #1 in China Gulch was surveyed in September 2001 and two can dumps were located.

Recreation

There are no developed recreation sites or managed trails within the project area. Recreation in the project area includes driving for pleasure, sightseeing, hunting, horseback riding, hiking and OHV use. The 40 acre parcel in China Gulch gets concentrated OHV use and an extensive trail system exists. It is not incumbent on BLM to reestablish these trails as they were built without BLM knowledge.

CHAPTER 4

Environmental Consequences

A. INTRODUCTION

This chapter forms the scientific and analytic basis for comparison of alternatives. Discussions include the environmental impacts of the alternatives and any adverse environmental effects which cannot be avoided should the proposal be implemented. The impact analysis addresses direct, indirect, and cumulative impacts on all affected resources of the human environment, including critical elements. It also identifies and analyzes mitigation measures, if any, which may be taken to avoid or reduce projected impacts.

Only substantive site specific environmental changes that would result from implementing the proposed action or alternatives are discussed in this document. Additional details are listed in the detached Appendix located in the EA file. If an ecological component is not discussed, it should be assumed that the resource specialists have considered effects to that component and found the proposed action or alternatives would have minimal or no effects. General or "typical" effects from projects similar in nature to the proposed action alternative are also described in the documents to which this plan is tiered.

B. FUELS

1. Direct, Indirect, and Cumulative Effects of No Action Alternative

The current trend of increasing stand densities and fuel loadings would increase the chance that more acres would burn in a high intensity fire within the project area. Fire fighter safety would continue to be an issue as well as the potential of resource damage.

The objectives of improving grasslands would not be achieved. Also, the restoration of shrublands and oak-woodlands would not be achieved.

Air quality would be impacted in the event of a large wildfire. Emissions from wildfires are significantly higher than from prescribed burning. The wildfires which occurred in southern Oregon in 1987 emitted as much particulate matter as all prescribed burning that occurred within the state that year.

2. Direct, Indirect, and Cumulative Effects of Action Alternative

The high fire hazard existing in the project area would be greatly reduced by treatment of ladder fuels and surface fuels. This in turn would reduce fire behavior such as flame length and duration. This change in fire behavior greatly increases the chance that direct suppression measures would be successful in the event of a wildfire which in turn would decrease the total amount of acres burned and acres burned in a high intensity fire.

The objectives of improving grasslands and the restoration of shrublands and oak-woodlands would be achieved under this alternative. The high fire hazard which exist in these areas would also be greatly reduced.

Impacts on Air Quality

Because the proposed action would utilize prescribed fire, there would consequently be some smoke related impacts.

Prescribed burning would comply with the guidelines established by the Oregon Smoke Management Plan (OSMP) and the Visibility Protection Plan. Prescribed burning under alternatives 1 and 2 is not expected to effect visibility within the Crater Lake National and neighboring wilderness smoke sensitive Class I areas (Kalmiopsis and Mountain Lakes) during the visibility protection period (July 1 to September 15). Prescribed burning is not routinely conducted during this period primarily due to the risk of an escape wildfire.

Prescribed burning emissions under these alternatives are not expected to adversely effect annual PM10 attainment within the Grants Pass, Klamath Falls, and Medford/Ashland non-attainment areas. Any smoke intrusions into these areas from prescribed burning are anticipated to be light and of short duration.

Smoke intrusions from underburning have the greatest potential to impact local drainages within and adjacent to the project area. Underburning requires a low intensity burn that would not have the energy to lift the smoke away from the project site. Smoke retained on site could be transported into portions of non-attainment areas if it is not dispersed and diluted by anticipated weather conditions. Localized concentration of smoke in rural areas away from non-attainment areas may continue to occur during prescribed burning operations.

Prescribed burning would be scheduled primarily during the period starting in January and ending in June. This treatment period minimizes the amount of smoke emissions by burning when duff and dead woody fuel have the highest moisture content, which reduces the amount of material actually burned. Smoke dispersal is easier to achieve due to the general weather conditions that occur at this time of year.

Other measures to reduce the potential level of smoke emissions from proposed burn sites would include mop-up to be completed as soon as practical after the fire and covering hand piles to permit burning during the rainy season where there is a stronger possibility of atmospheric mixing and/or scrubbing.

C. WILDLIFE

1. Direct, Indirect, and Cumulative Effects of No Action Alternative

This alternative would have no immediate negative effect on species using the area. However, the fuel accumulation in the area would continue to grow. This fuel buildup could facilitate stand replacement type wildfires. In the event of a stand replacement fire in the project area, many acres of suitable habitat for some or all of these species could be destroyed. Under this alternative the benefits of stand density reduction on wildlife habitat would be forgone. Benefits of stand density reduction include increased growth of residual trees, increased residual tree vigor, and potential for accelerated development of late successional/ old-growth characteristics.

In the non-forested portions of the proposed project area, under this alternative, the benefits of brushfield thinning would be forgone. These benefits include increased forage production for a wide variety of wildlife, increased vegetative structural diversity and plant species diversity. Disturbance is a natural part of the ecosystems in the proposed project area and the no action alternative would forego the reintroduction of disturbance to the area.

2. Direct, Indirect, and Cumulative Effects of Action Alternative

Northern Spotted Owl (*Strix occidentalis caurina*)

Approximately 253 acres of suitable spotted owl habitat would be affected by the proposed project. Even the short term effects to suitable spotted owl habitat as a result of this proposed project requires consultation with the U.S. Fish and Wildlife Service (USFWS). The proposed project is more than one-half (½) mile from the nearest known spotted owl site. The project would not result in incidental take of any spotted owl sites. For USFWS consultation purposes the proposed action is classified as “may affect, not likely to adversely affect.”

Programmatic consultation with the USFWS on this project is covered by biological opinion # 1-7-96-F392, issued by the USFWS on Oct. 18 1996. The USFWS concluded that the projects covered in the consultation, including actions of the type proposed, were not likely to jeopardize the survival of the spotted owl as a species.

Great Gray Owl (*Strix nebulosa*)

Because the proposed project area is considered to be non-suitable habitat, and because the proposed activities would be unlikely to negatively affect the habitat characteristics of the stands that are thought to be important to this species if the stands were suitable habitat, no negative effect is anticipated on this species. There is a potential for positive effects in that the reduction of understory and thinning of brushfields could create suitable early successional habitat next to the forested stands in the area. The combination of large late successional trees in close proximity to early successional habitat (grass) is a favored habitat type for nesting by this species in this area.

Flammulated Owl (*Otus flammeolus*)

This species is associated with large diameter pine snags and trees. It uses holes in these trees for nesting. The proposed treatments under this alternative may have a long term benefit for this species due to the expected increase in tree growth and vigor. Also, ponderosa pine is a shade intolerant species and the proposed treatments are likely to improve the recruitment of pine into the forest stands and brush field edges.

Fisher (*Martes pennanti*)

It is largely unknown what steps are necessary to protect the species and its habitat other than retention/protection of potential dens, which are hollow logs and trees, large cavities in trees and snags, and large horizontal brooms. The proposed project area has very few if any of these structures due to the young age and small size of the trees present. Reducing the density of the timber stands would accelerate the development of the large wood features believed to be key

habitat components for this species.

Oregon Red Tree Vole (*Arborimus longicaudus*)

Understory thinning would facilitate the development of larger, more vigorous trees in the overstory. This species is associated with trees in the larger size classes. Thus this alternative could benefit this species in the long term. Thinning of trees greater than 8 inches DBH is not likely to negatively affect this species, even in the short term.

Monadenia chaseana

This terrestrial land-snail has been located at two sites in the Texter Gulch portion of the proposed project area. One of these sites is in the protected Riparian Reserve area, the other would be buffered according to the interagency Management Recommendations for this species.

Franklin's Bumblebee (*Bombus franklinii*)

This species appears to be associated with open grassy habitats; the thinning of brushfields may be beneficial to this species because additional habitat may be created.

SPECIAL STATUS SPECIES FOR WHICH THE ACTION ALTERNATIVE IS EXPECTED TO HAVE MINIMAL EFFECT

The following is a list of special status species for which the action alternative is expected to have minimal if any effect. For some of these species the proposed project area is outside their known or suspected range and or habitat types.

Golden Eagle (*Aquila chrysaetos*)

Siskiyou Mountains Salamander (*Plethodon stormii*)

Black Salalamder (*Aneides flavipunctatus*)

Fringed Myotis (*Myotis thysanodes*)

Pacific Pallid bat (*Antrozous pallidus*)

Long-legged Myotis (*Myotis volans*)

Long -eared Myotis (*Myotis evotis*)

Silver haired Bat (*Lasionycteris noctivagans*)

Yuma Myotis (*Myotis yumanensis*)

Bald Eagle (*Haliaeetus leucocephalus*)

Peregrine Falcon (*Falco peregrinus*)

Lewis' Woodpecker (*Asyndesmus lewis*)

Western Meadowlark (*Stunella neglecta*)

Northern Goshawk (*Accipiter gentilis*)

White-headed Woodpecker (*Dendrocopos albolarvatus*).

Black-backed Woodpecker (*Picoides arcticus*)

Northern Three-toed Woodpecker (*Picoides tridactylus*)

Western Pond Turtle (*Clemmys marmorata*)

Townsend's Big-eared Bat (*Plecotus townsendii*)

D. BOTANY

1. Direct, Indirect, and Cumulative Effects of No Action Alternative

The no action alternative would have no direct affect on the Bureau Special Status and Northwest Forest Plan Category C vascular plant *Cypripedium montanum*. Detrimental indirect and cumulative effects might result if management activities allow fuel levels to accumulate to the point that a stand destroying fire occurs.

The no action alternative would have no direct affect on the continued persistence of the Northwest Forest Plan nonvascular species *Bryoria tortuosa*, *Buxbaumia viridis*, *Dendroica intricatulum*, and *Tremiscus helvelloides* within the confines of the Slashbuster 3 project area. Detrimental indirect and cumulative effects might result if management activities allow fuel levels to accumulate to the point that a stand destroying fire occurs.

2. Direct, Indirect, and Cumulative Effects of Action Alternative

The one known occurrence of the Bureau Special Status and Northwest Forest Plan species *Cypripedium montanum* has been buffered with a 150 foot radius buffer in accordance with District protocol.

The 26 occurrences of the Northwest Forest Plan species *Bryoria tortuosa*, *Buxbaumia viridis*, *Dendroica intricatulum*, and *Tremiscus helvelloides* have been buffered with a 100 ft radius buffer in accordance with Medford BLM District Office Instruction Memorandum OR110-2000-8 dated 23, June, 2000. This buffering provides protection from physical disturbance and microclimate alterations associated with timber harvest activities.

The action alternative would have no direct affect on the continued persistence of *Cypripedium montanum* within the confines of the Slashbuster III project area. The 150 foot radius buffer around the known site should allow for the continued persistence of this population, however, reduction of canopy closure to less than 50 % in the surrounding stand would greatly reduce or completely eliminate the possibility that this species would spread to other parts of the stand in the foreseeable future.

The action alternative would have no direct affect on the continued persistence of *Bryoria tortuosa*, *Buxbaumia viridis*, *Dendroica intricatulum*, or *Tremiscus helvelloides* within the confines of the Slashbuster III project area.

Bryoria tortuosa often occurs in stands of whiteleaf manzanita (*Arctostaphylos viscida*) that are exposed to direct sunlight. It has a high tolerance for dry sites conditions and would most likely continue to exist on the site even if the proposed management units in question are thinned to the minimum level of 40 % canopy closure. Any management prescription that allows for the retention of existing older manzanita stems would help to insure the continued persistence of this species throughout the Applegate region of the Ashland Resource Area.

The one known site of *Buxbaumia viridis* is located in a stream bed within a riparian buffer and would not be affected by the proposed management activities.

Indirect and cumulative effects would most likely be detrimental to *Dendriscoaulon intricatum* which typically occurs on black oak stems less than 100 years of age under fairly dense (60 -100 % canopy closure) stand conditions on ridges exposed to winter fog or in riparian areas. Removal of the canopy to the 40 % level would significantly reduce the moisture retention on the site and would likely have a detrimental effect on the continued persistence of this species within the six slashbuster and manual units in question; Texter Gulch unit numbers 6,11,15, 17, 18, and 19.

The one occurrence of *Tremiscus helvelloides* in the proposed harvest unit Texter Gulch #12 falls within a riparian buffer and would probably not be affected by the proposed action. Indirect and cumulative effects would most likely be detrimental to the *Tremiscus helvelloides* site in Texter Gulch #13 as this species is usually associated with moist sites and canopy cover greater than 60 %. Removal of the canopy to the 40 % level would significantly reduce the moisture retention on the site and would likely have a detrimental effect on the continued persistence of this species.

E. FISHERIES, HYDROLOGY, RIPARIAN

On June 18, 1997, the National Marine Fisheries Service listed southern Oregon/Northern California (SONC) coho salmon as “Threatened” under the Endangered species act [FR 62(17:33038]. On May 5, 1999, NMFS designated “Critical Habitat” for SONC coho [FR64(86):24049]. All of the streams in the project area lie within the designated Critical Habitat area for SONC coho.

1. Direct, Indirect and Cumulative Effects of the No Action Alternative

Riparian Reserves

Direct Effects: With no on-the-ground actions, there would be no direct improvements or damage to Riparian Reserves.

Indirect Effects: Without on-the-ground actions, fuel loading in both the uplands and the outer portions of many Riparian Reserves would continue to keep high and medium hazard Riparian Reserves at risk for severe, stand-replacing fires. Consequently, small streams would continue to be at high risk for sudden changes in peak flow, sediment input, and down-cutting due to concentrated runoff following wildfires, loss of fallen wood on the forest floor, and loss of protective duff layers especially on highly erodible soils. Although some Riparian Reserves in the project area are healthy and provide good habitat, others suffer from the effects of a century of fire suppression. In forest stands where fire suppression has artificially increased vegetation densities, trees would continue to grow very slowly, perpetuating the lack of late-successional riparian habitat. Competition for water in dense stands would continue to stress large diameter trees (both hardwood and conifer), making them more susceptible to disease and insect outbreaks. Along some streams, the dense forest canopy would continue to shade out riparian shrubs and forbs. All of these factors would impede natural stream functions and processes and ultimately reduce habitat and resources for aquatic animals and riparian dependant wildlife.

Cumulative Effects: Riparian Reserve habitat and condition would remain the same. The ability

of Riparian Reserves to withstand forest fires and control sediment impacts would remain compromised. Severe fires or other landscape level changes due to inaction could further impact already-stressed riparian systems. In a natural system, this might not be an issue because wildlife could move to better habitat elsewhere, plants could re-seed from adjacent areas, and aquatic animals would also repopulate. However, the residential, agricultural and transportation impacts on private land in valleys, rivers, and mountain streams limit animal migration, block fish passage, divert water, and in general have seriously reduced riparian habitat.

303(d) listed streams (Beaver Creek)

Direct Effects: This project would have no direct effect on Beaver Creek, the only 303(d) listed stream in the project area.

Indirect Effects: The factors contributing to the related listings for Biological Criteria and Sedimentation would be at significant risk for degradation from severe wildfire. Sediment levels from tributaries in the project area would show dramatic increases following a severe fire, as peak flows increased dramatically. Potential sources of future instream large wood would be significantly reduced, leading to additional inputs of sediment as wood levels declined over much of the next century. Likely inputs of sediment would occur from fire suppression-related disturbance. Flow Modification would be unaffected by the project, as there are no proposed treatments associated with irrigation withdrawals. While there would be no immediate effect prior to a wildfire, Water Temperature would increase significantly for many years following a severe fire, and loss of large wood and loss of colluvial sediment storage in Beaver Creek tributaries would increase the flashiness of the stream, leading to decreased summer low flows and increased stream width/depth ratios, all of which could have a significant negative effect on stream temperatures. After an initial pulse of large wood, conditions affecting the listing for Habitat Modification (specifically input of large wood) would decline for many years due to a lack of available large trees to fall into Beaver Creek.

Cumulative Effects: The effect of past fire suppression and vegetation management activities, combined with a decision to take no action, would maintain current high levels of risk for severe fire-- a level of risk that falls outside of the range of natural variability for this area. With continued lack of treatment and the inevitable risk of severe fire, significant negative impacts affecting the parameters related to the 303(d) listings in Beaver Creek would occur. At the watershed scale, these impacts combined with the continuing level of negative impacts from other sources would lead to continued declines in condition.

Fish and Other Aquatic Organisms

Direct Effects: Without on-the-ground actions, there would be no direct benefits or harm to fish and other aquatic organisms.

Indirect and Cumulative Effects: Stream condition and fish habitat would remain the same, and could decline if severe forest fires destroy remaining riparian habitat. The ability of aquatic organisms to respond is already limited by continued habitat impacts from rural residences, water

withdraws, agriculture, timber harvest activities and mining practices in the Applegate basin.

2. Direct, Indirect and Cumulative Effects of Proposed Action

Riparian Reserves

Direct Effects: Habitat and function of Riparian Reserves would be improved. Some of the Riparian Reserves in the project area would benefit from thinning activities, especially in the intermittent stream channels where riparian vegetation is limited and brush and small diameter trees provide a “chimney” of dry materials through which a high intensity fire could be carried. In fish bearing streams, the Riparian Reserves generally have wider areas of established riparian vegetation. Treatment is not proposed within a 50 feet zone on each side of these streams. In some perennial and intermittent streams, brush and small trees would be thinned within the Riparian Reserves to encourage the growth of remaining trees, thus increasing stand structure and diversity. The remaining trees would grow bigger, faster, and thinning the smaller trees could encourage development of an herbaceous understory. These treated Reserves would provide more habitat diversity and refugia in the event of large fires or other landscape-level changes. Riparian Reserves that are overgrown with brush and small diameter conifers would benefit from thinning and subsequent increases in species diversity and improved growing conditions.

It is unlikely that burning handpiles that are within Riparian Reserves would contribute any sediment to the small intermittent (dry in the summer and fall) and perennial streams within the units. The 25 feet “no burn” buffers along each side of streams would ensure that any open areas of ash or soil would be unable to cause erosion leading to fine sediments reaching stream channels. For example, thick duff and ground vegetation may prevent sediment from reaching the stream. Therefore, there is a less than negligible chance of negatively affecting water quality for coho salmon, steelhead, or other fishes and aquatic animals. In addition, the piles should not contribute any sediment above natural background levels. The “no treatment” buffer would not be part of the prescribed underburn. Instead of digging a hand line parallel to the stream, fire would be allowed to back into this area, mimicking natural fire conditions. Normally, these riparian systems would burn occasionally, contributing nutrients, ash, and sediment until the landscape healed the following spring. Burning piles of brush underneath the canopy with adjacent intact duff and litter layers would not approximate the intensity of even a prescribed burn.

In the larger landscape, burning the handpiles and subsequent underburns would reduce fuels in the units so that future wildfires would produce a more natural, mosaic burn with a restorative effect on the Riparian Reserves (healthier and more diverse plant communities, increased food and nutrient abundance for wildlife, birds and aquatic organisms, etc).

Indirect Effects: The upland and Riparian Reserves treatments would reduce the risk of severe, stand-replacing fires in Riparian Reserves, although untreated Reserves would still be at high risk under certain fire conditions. The treatments would consequently reduce the risk of sudden changes in peak flow, sediment input, down-cutting due to concentrated runoff, loss of fallen wood on the forest floor, and loss of protective duff layers following wildfire. Upland and

Riparian Reserve thinning might improve soil moisture (although slight). An increase in soil moisture would improve or prolong humidity in some Riparian Reserves. This humidity creates microhabitats for riparian-dependant plants and animals (e.g., bigleaf maple and salamanders), or extends the growing season for others. Upland conifer thinning, prescribed fire, and shrub/grass/oak woodland treatments would improve overall watershed health, ultimately benefitting aquatic systems by restoring more natural ecological processes.

Cumulative Effects: While ecological condition in these watersheds would probably remain outside the range of natural variability due to ongoing effects of past fire suppression and associated lack of vegetation management, this project would begin to move a portion of these watersheds back into the range of natural variability. Given all the current and past impacts to riparian areas on both public and private land throughout these watersheds (e.g., highways, residences, fire suppression, commercial businesses, farming, river channelization, gravel extraction, logging, gold mining) it is doubtful that the small amount of thinning in Riparian Reserves would significantly improve overall riparian health. However, connectivity and riparian function would be improved in segments of these watersheds.

303(d) listed streams (Beaver Creek)

Direct Effects: This project would have no direct effect on Beaver Creek, the only 303(d) listed stream in the project area.

Indirect Effects: The factors contributing to the related listings for Biological Criteria and Sedimentation would be expected to remain steady or show slight improvement over the long term as sediment levels from tributaries in the project area gradually decline due to increasing retention of sediment from increasing size and stability of large woody debris in the Riparian Reserves. Flow Modification would be unaffected by the project, as there are no proposed treatments associated with irrigation withdrawals. While there would be no immediate affect, Water Temperature could decline slightly in the very long term if increasing levels of large wood and colluvial sediment storage in treated Beaver Creek tributaries enhanced summer low flows and reduced stream width/depth ratios. Habitat Modification (specifically input of large wood) would improve in the distant future as increasingly large trees would fall into Beaver Creek.

Cumulative Effects: Riparian Reserve and upland treatments would have a neutral to slightly positive impact on the parameters leading to 303(d) listings in Beaver Creek. At the watershed scale, these improvements would probably remain undetectable due to the continuing level of negative impacts from other sources.

Fish and Other Aquatic Organisms

Direct Effects: This project would have no direct effect on fish.

Indirect Effects: The increased large woody debris in treated Riparian Reserves would restore natural sediment controls in these streams. Increased fine sediment retention and reduced runoff would consequently reduce sediment loading in downstream fish habitat.

The reduced risk of severe wildfire lessens the chance of massive sediment inputs to downstream fish habitat. Potential increases of groundwater or surface flow would make water available to more aquatic organisms for longer periods during the year.

Cumulative Effects: Riparian Reserve treatments would have no negative effect on fish. Reducing the risk of severe wildfire and the resulting sediment inputs would provide long term improvements to downstream habitat for fishes and other aquatic organisms. However, reduced sediment input or threat of sediment input may be offset by other human caused problems as the valley population increases, including continued floodplain development, roads, timber harvest, and road construction on private land.

Threatened and Endangered Aquatic Species and Essential Fish Habitat

This project is determined to have “No Affect” on listed coho salmon, their Critical Habitat, or Essential Fish Habitat. The project is “No Affect” because project design features, Riparian Reserve stipulations, and site conditions would ensure that there is a less than negligible chance of negatively affecting water quality for resident fishes and aquatic organisms.

There would be no impacts to coho salmon, coho critical habitat, or essential fish habitat from upland thinning using the slashbuster or from pile burning. Natural ecosystem processes should be improved and no fine sediments, flow problems or other potentially harmful physical changes should negatively impact stream conditions and coho habitat due to the following:

- the distance of treatment areas from coho habitat
- strict fine sediment control techniques on all proposed activities
- buffering of all Riparian Reserves
- protection of possible unstable soil areas
- care to mimic natural fire conditions with prescribed burning

F. CULTURAL/RECREATION

Portions of the project area were surveyed under contract in 1999 by Sore Foot Archaeology. All known cultural sites were flagged and would be avoided. The 40 acre parcel in China Gulch was surveyed in September 2001. Two can dumps were located. One is on the north boundary of the project area and would be buffered by the riparian reserve. The dump on the south edge of the project area is flagged and would be avoided.

As long as these two areas are avoided, no adverse impacts to cultural resources would be anticipated. The survey maps for the Texter Gulch portion of the project indicate that no sites were found in this area.

There would be no anticipated negative impacts to recreation from the proposed action.

G. CRITICAL ELEMENTS

The following elements of the human environment are subject to requirements specified in

statute, regulation, or executive order and must be considered in all EAs.

Table 12: Critical Elements

Critical Element	Affected		Critical Element	Affected	
	Yes	No		Yes	No
Air Quality		✓ **	T & E Species		✓
ACECs		✓	Wastes, Hazardous/Solid		✓
Cultural Resources		✓	Water Quality		✓ **
Farmlands, Prime/Unique		✓	Wetlands/Riparian Zones		✓ **
Floodplains		✓	Wild & Scenic Rivers		✓
Native American Religious Concerns		✓	Wilderness		✓
Invasive, Nonnative Species		✓ **	Environmental Justice		✓

**These affected critical elements would be impacted by implementing the proposed action. The impacts are being reduced by designing the proposed action with Best Management Practices, Management Action/Direction, Standard and Guidelines as outlined in the Environmental Impact Statements (EIS)/Record of Decisions (*RMP*) (*USDI BLM 1995*)(*USDA FS; USDI BLM 1994*) tiered to in Chapter 1. The impacts are not affected beyond those already analyzed by the above mentioned documents.

Only substantive site specific environmental changes that would result from implementing the proposed action or alternatives are discussed in this document. If an ecological component is not discussed, it should be assumed that the resource specialists have considered effects to that component and found the proposed action or alternatives would have minimal or no effects. General or "typical" effects from projects similar in nature to the proposed action alternative are also described in the documents to which this plan is tiered.

CHAPTER 5

A. LEGAL CONSULTATION

Federal Agencies:

U.S. Fish and Wildlife Service
U.S. National Marine Fisheries Service
Rogue River National Forest

State and Local Agencies:

Oregon Department of Fish & Wildlife
Oregon Department Forestry
Jackson Co. Commissioner

B. DISTRIBUTION LIST AND AVAILABILITY ON THE INTERNET

This EA was distributed to the following agencies and organizations.

ORGANIZATIONS

Applegate River Watershed Council
Audubon Society
Klamath Siskiyou Wildlands Center
Headwaters
Oregon Natural Resource Council

The Pacific Rivers Council
Association of O&C Counties
Southern Oregon Timber Industry Assoc.
Southern Oregon University

TRIBES

The Confederated Tribes
Cow Creek Band of Umpqua Indians
Confederated Tribes of Grand Ronde
Confederated Tribes of Siletz
Klamath Tribe

Quartz Valley Indian Reservation
Shasta Nation
Confederated Bands [Shasta]
Shasta Upper Klamath Indians
Confederated Tribes of the Rogue-table Rock
and Associated Tribes

C. AVAILABILITY

A copy of this EA is available upon request from the Ashland Resource Area, Bureau of Land Management, 3040 Biddle Road, Medford, OR 97540. For more information call Bill Yocum at (541) 618-2384. It is also accessible online at www.or.blm.gov/medford, under "Planning" link. The EA has also been placed in the public reading room at the BLM office (above address) and a copy sent to the Southern Oregon University Library.